NAME: ALICE TALATU ALIU

MATRIC NO: 17/MHS01/055

ASSIGNMENT: CHM 102

1a) The mass of the molecular ion is odd so

 N=14amu 105-14=91

 To determine no of carbon atoms =$\frac{91}{12}$= 7.5 c7NH7

 To make up the rest of the mass

 7 H’s gives C7NH7

 7×12-84

 1×14=14

 105-(84+ 14) =7

when an 0 atom is added

c7NH7= c6noH3

 (2(6.5) +2-3) ⁄2=6

1b) In Nucleic acids- they are essentials biopolymers for all life forms (DNA included)

 As the basics of food- organic molecules make up a large portion of the human diet and are found in all food consumed by humans.

 In metabolism- they allow organisms to grow and reproduce maintain their structure and respond to the environment.

 In protein-it provides a source of amino acids. They are composed of chains of organic molecule called amino acids.

 they store energy signalling lipids and act as structural components of cell membrane.

 1c) Homocyclic compounds are cyclic compounds having atoms of the same element as ring members while heterocyclic compounds are cyclic compounds having atoms of different elements as ring members including carbon atoms.

2a) RF = distance moved by substance⁄ distance moved by solvent font

 $\frac{2.4}{12.2}$= 0.2

 $\frac{5.6}{12.2}$= 0.5

 $\frac{8.9}{12.2}$= 0.7

2b)A is an Aldehyde

 B is an Acid Halide.

2c) It is employed in test for carbonyl groups associated with aldehydes and ketones.

2d)

|  |  |
| --- | --- |
| Functional groups of organic compounds | examples |
| Alkanols  | Methanol, propanol |
| Alkanals  | Methanol, Ethanal |
| Alkanones | Propan-2-one, Butan-2-one |
| Amines | Methylamine, Ethylamine |
| Esters | Methyl methanoate, ethyl butanoate |
| Amides | Ethanamide, butanamide |
| Alkanoic acids | Propanoic acid, butanoic acid |